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Career Education and Integrated Curriculum

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Abstract

The article presents an action research process for the improvement of Vocational Guidance and Career Education in a school center in Santa Cruz de Tenerife (Canary Islands). The research perspective, from a collaborative and critical work, responds to the need to improve the teaching-learning practice. Priority is given to the ulterior need to improve learning for all students and increase the impact of their journey through school by means of an educational attention and guidance based on a curriculum project with an integrated and global Career Education and Guidance. Finally, results, process and conclusions are displayed of the two years of critical action research carried out by the different educational agents participating.

Key words: Career Education; Critical Pedagogy, Integrated Curriculum, Global Education,

JEL classification: I20

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Introduction

The work presented is supported by an Action Research (AR) carried out in a school in Santa Cruz de Tenerife. A group of teachers, counselors and external advisers collaborate in this space with an initial common ground: an interest in improving the career education carried out in the school. The article attempts to reflect a part of the complexity of the processes of reflection and educational endeavors constructed collaboratively; it is only one among many possible ways in which to disentangle and reconstruct the complex and unfinished dialectic path of the educational praxis.

The first part attempts to express the theoretic, epistemological and methodological components that have traced the shared path towards a holistic and Critical Model of Career Education and Guidance. During the second phase the concrete form acquired by this path is displayed at its most significant moment, namely: the two years of collaborative research with the staff of Primary Education and of the 1st and 2nd grades of Secondary Education (6th-8th grades Middle School) of the Susana Villavicencio School. As such, this

article intends to transmit two levels or perspectives of one same path: a more abstract one centered on the discourse and another constructed within the framework of the research in practice. These two perspectives mutually interact and complement each other.

Literature Review

The model we defend was not merely adopted or imported from the scientific literature regarding different programs of career education and guidance (Gysbers & Henderson 2006; Ministry of Education, 2006; Rawlings, 2000; Watts & Fretwell, 2004; Watts, & Sultana, 2004); the idea was neither to apply external strategies nor strategies from other contexts such as work-based learning (Okon, 2011; Rowley, 2003; Heyler, 2005), to test them within a technical research outside our specific teaching practice. It was, instead, a model that took shape throughout the research process itself upon analyzing and discussing the concerns, problems and goals of a group of educational agents devoted to improving the education of a specific student body. Along the road of reflection, in which theories and practices proceeding from other contexts were contrasted, a model was being conceived and built which transcended the adaptive-efficiency perspective of Vocational Guidance and the technical perspective of the Curriculum (González & Santana, 1996; Santana, 2003, 2013). The educational practice and the intersubjective discourse shaped the reflections on the theoretical and ideological origins and foundations of the career education movement and its possibilities for improving the learning experience. (Herr, 2001; Hoyt 2005; Watts, 2004; Hyslop-Margison, & Armstrong, 2004; Irving, Malik, Arthur, & Cabrera, 2013). The model derived from this process was called: Its grounds, based on some of Dewey's ideas on education (Dewey, 2001), is centered on the present evolution of the critical stance on the current modernity inspired by Habermas's philosophy (Habermas, 1999a, 1999b). This paradigm defends those illustrated ideals of social emancipation but under the new rationality of intersubjectivity. It is not dictated by a unique and valid model of emancipation for all societies: it understands that no subject (neither scientific entity, thinkers, nor institutions) can determine what the object to be transformed is, nor which universal model should be used to do so; rather it sustains that the improvement is and should be constructed through the intersubjective communication within the critical communities themselves in their specific historical moments.

The model is built through the critical action research developed within a collaborative school community committed to constructing an education that raises awareness and fights to improve the current social and professional world (González & Santana, 1998). This requires a global curricular project (Torres, 2001, 2002); Beane, 2005) that facilitates a holistic approach to education, social and professional problems. Such a project materializes itself within a didactic model based on a collaborative research which includes the following characteristics: a) integrative learning of the professional world, b) independent decision-making, c) teamwork and d) procedural and active construction with the aim to arouse a critical and emancipatory attitude regarding problems in the professional world (Fernández-Sierra, 2006; Irving & Malik, 2005; Irving & Raja, 1998; Martínez, 1996).

Research and Methodology

Objectives of the Study

The means used to pave this path has been the Action Research (AR) fulfilled throughout two cycles (of one academic year each). This method of research and reflection is not done "on the practice" but rather as an integral part of it, in this manner determining the research objectives. It seeks not only a complex interpretation of the current learning reality but, above all, its improvement by tackling the basic theories that support this improvement:

Why AR in career guidance? Research objectives

In order to examine systematically, reflexively and critically the teaching and counseling practice, both on a micro level (context, school center, classroom) and macro level (community, vocational problems).

To improve the orientation processes transforming them progressively into preventive, sequential and interdisciplinary processes.

To improve intersubjective reflection in an attempt to create teamwork culture.

To develop a curriculum project that integrates a more holistic approach to career education, attempting to go beyond some of the limitations of the traditional context of the learning process.

To stimulate processes of independent learning, decision-making and teamwork in the students, going beyond the organizational, bureaucratic and ideological barriers that promote dependency.

What epistemology supports the AR?

It is framed within the research theories on education or more precisely, educational critical research (Hopkins, 2010; Latorre, 2003; McLaren, P. y Kincheloe, J., 2008; McKernan, 1999; Pérez, Sola, Soto, y Murillo, 2009; Stringer, 2007) The AR model that best encloses these principles is the Kemmis & McTaggart model (1998), which describes the AR moments both on a practical level and in the discourse; Discourse (Reflection and Planning), Practice (Action and Observation). The four moments hold among each other a prospective and retrospective relationship, shaping a spiral of AR cycles.

What is the nature of the intended research?

In the initial contact we defined and gave shape to the general ideal of the problem or area of improvement: the Vocational Guidance in the school. However, the definition and representation of the problem, following the AR cycles, were inconstant involvement right up to the end:

A diagnosis and a prioritization of needs was carried out in the first cycle in order to evaluate whether the Vocational Guidance was an actual problem in the school community and to assess what aspects of the issue were perceived as needs.

In the second cycle, with a larger staff and a government grant, we analyzed the events of the first experience in order to shape the new needs or aspects of the subject of research and improvement. The new subjacent categories respond to four dimensions (intentional, curricular, personal and institutional), which according to the specific literature help to construct and understand improvements in education (Escudero, 2009; Guarro, 2012; Krichesky & Murillo, 2018), and, specifically the improvements in career education (Arthur, 2005; Fernández-Sierra, 2006; Irving, & Malik, 2005)

Specifying the Problem and Designing a Hypothesis

Clarifying, representing and specifying the problem gave rise to a new hypothesis of action that included both the objectives and the possible means to attain them. The ones here presented are the result of a process of stating the problem and designing the plan for its improvement during the second cycle:

By going into more detail and increasing teamwork among the teachers/counselors a global curricular project can be generated that defends the shared and non-hierarchical responsibility to jointly research and develop a career education.

If we project and develop an interdisciplinary and integrative practice of career education and guidance, it would be possible to attain a student learning that would cease to be fragmented, thus obtaining a greater degree of understanding regarding the impact that schoolwork can have on the student's professional future.

Promoting a teacher-learning process with an inquisitive and participative approach -where students feel responsible for their own, individual learning within a group; in which the staff guides but does not determine the activities; and in which the counselor puts into effect and facilitates the theoretic-practical resources - would increase student motivation and development of the necessary skills for their emancipation and increase their capacity to confront the career problematic.

Elaborating material to guide the interdisciplinary and integrative practice of career education and guidance would facilitate the collaboration and coordination of all those involved in carrying out the practical and observational actions.

Analyzing the limitations of space, time and working conditions of the school that can hinder the innovation-research, can lead to a deeper critical reflection on the contradictions between our intentions regarding the education-society relationship and what a specific learning tradition allows us to develop.

Opening up the classrooms to vocational or professional agents to guide specific activities in education, could break the barriers between the school and the social and professional environment and promote school contents with a meaningful and real nature for all the participants.

Who co-partnered in the AR?

On the basic assumption that all critical action research, for its intersubjective rationality, is collaborative (Habermas, 1999a, 1999b) and that, furthermore, one of its aims is to promote an increasingly all-inclusive community of participants, (staff, students, external and internal support system, families) independently of whether the roles and responsibilities changed throughout the process (Snell & Janney, 2000)

How did we carry out the AR? Data collection and analysis tools

Regarding the selection process, it is important to specify that, given the nature of the problem, it became necessary to reformulate the tools as we advanced in the understanding of the area of improvement. It is important to note that intersubjectivity is placed above any particular data collection or analysis tool. The selection was thorough, flexible and varied to better understand, from several perspectives, something that by itself is already complex (González, 1997).

About the Questionnaires: These tools were elaborated by the consultants after being subjected to a content analysis by the judges: they were developed by three university professors in the fields of Vocational Guidance and Research Methods, particularly the Identification of Needs questionnaire (INQ) prior to having teacher supervision. The remaining questionnaires of the 1st and 2nd cycles were elaborated according to team decisions. In the 1st cycle a Questionnaire for the Evaluation of Previous Knowledge of the Students (QEPK) was elaborated regarding the contents related to vocational guidance and another one for the Evaluation of Final Knowledge (QEFK) acquired in the experience process. In the second cycle we were more interested in the results of the Final Evaluation (FEQ) of the students at the end of the integrative career education experience, as well as the Evaluation of the teaching staff in relation to the Teaching Material Elaborated (TME) in order to be able to complete the designated "student notebook".

About the Observation: In relation to the video observation we selected some significant sessions; it was a process of open observation, with transcript and categorization of the data by observation in order to gather data regarding the categories of "teaching role" and "school-work environment relationship". The mutual observation was carried out in practice with the objective of promoting mutual support and to foster group reflection. The observation guide was used in the 2nd cycle to collect aspects regarding the curricular and institutional dimension of the problem.

About the Discussion Groups (DG): they were used to acquire a deeper understanding of specific reflections of the team in relation to the objectives of the "curriculum infusion of Vocational Guidance" and on "interdisciplinarity" (1st cycle); in the 2nd cycle they were carried out to debate our goals, roles and responsibilities within the AR (intentional and curricular dimension) and to draw up the conclusions (institutional dimension).

About the interview (I): In the first cycle the teaching staff went through a semi-structured interview regarding their opinion on the design and implementation of the experience. In the second cycle open and spontaneous interviews were carried out among the members; in addition a semi-structured interview was carried out to an outside professional, to learn about his opinion on the teaching and learning materials, his experience in the classroom and what the students had learnt.

About the Journals: In the first cycle a Sessions Journal (SJ) was used to collect data regarding the content of the team session, its preparation, the work fulfilled, the decisions taken and points to be addressed at the next meeting, as well as observer comments. Throughout the second cycle we worked with the Teacher Journal (TJ) according to the Field Model (1993) collecting data on what had taken place: positive and negative, and recommendations for change; each teacher handed over to the team a synthesis-report

of the journal which was used to analyze the curriculum, the personal and the institutional dimensions. The Student Journal (SJ) was used to analyze daily evolution, self-evaluation, self-knowledge in relation to learning, as well as an evaluation of the innovation (curriculum, personal and institutional dimensions).

About the documentary evidence: these were used throughout the entire research. The most notable ones were the Sessions Minutes of the coordinator (to analyze all dimensions), Final Statement (FS) of the work team (for all dimensions), Final Reports (FR) of the students (curriculum and personal dimension), and the Student Notebook (SN).

With respect to the elaboration and use of these tools there were differences depending on the cycle, as expressed in the following paragraphs:

In relation to the analysis process, we can highlight the core ideas around which the AR evolves: the data analysis is carried out by the entire team through intersubjective discussion and constant inquiry. The interpretation is done on the personal, cultural, social, historical and political aspects. Critical evaluation and reflection are basic means for analyzing the internal and external determinants of our intentions. We as counselors or coaches intervened more in the moments of reflection, stimulating and synthesizing the reflection within a global and in-depth perspective.

It must be taken into account that the cyclical spiral is the general procedure for analysis in AR as Contreras (1994, p.14) expresses when he states that "AR is not a mere methodology. AR is not purely a collection of techniques and resources to gather data. If anything, these techniques and resources must be at the service of the philosophy that inspires the AR". In accordance with this backdrop, in which quantitative and qualitative forms of analysis are accepted, our analysis process was:

The analyses of a quantitative type were carried out to a greater extent in the 1st cycle where we needed to know the frequency with which the Vocational Guidance needs were evaluated by the school community as a whole. For data on the student learning questionnaire (QEPK & QEFK) a frequency analysis was also carried out together with the analysis of the student notebook content (SN).

In the 2nd cycle, the approach was basically qualitative: the information regarding the different categories of the problem was evaluated throughout the entire process, contrasting them with different sources and tools.

Findings

The AR modality does not allow for a separation between the process and the results. For this reason it is necessary to describe the research process at the same time as the data is being obtained and revised. The two cycles that formed the AR process included the periods for *initial reflection, planning, action and final reflection*.

I. First cycle of the Action Research

The first cycle was, above all, a pilot experience focused on carrying out a diagnosis of needs, as well as on comprehending the problem and the way to research and work collaboratively. The synthesis of this first study was centered on the following dimensions:

- a) The work carried out and its effect in practice:

In the 1st cycle, following the initial contact to negotiate the area of improvement, one of the most important moments was the "identification of needs of the Vocational Guidance": with the informal analyses (sub-phase of the identification of needs) and the formal analyses (categorization of the needs through the frequency analysis of the questionnaires) we elaborated our 1st diamond ranking of needs (González, 1997; Guarro, 2012). The important thing to highlight in this stage was that the team was able to get a clearer idea of the area of improvement of the Vocational Guidance, with which our subsequent actions could be justified.

During the *Improvement Planning Process*, we were able to design a program specifying: the problem, in relation to how to improve the Vocational Guidance in the school; the courses of action (pilot project of

curriculum integration and work seminar with the families); the necessary negotiations within the center. The integration (infusion of the vocational contents within the curriculum) was planned around the difficulties surrounding agriculture and farmers in the Canary Islands, designing a conceptual map of infusion contents and matrices; the activity worksheets were structured around 3 key moments: before, during and after the visits to farms and agrarian vocational training schools. The seminar with the families was prepared with three sessions of work-reflection. The most noteworthy moment in the planning process was the capacity to design a didactic unit with the principles of career education adapted to a new context, as well as the realization of the internal (mentality) and external (lack of time and resources) determinants to preparing this type of methodology.

Within the *action* period, activities were carried out such as: guide for interviewing professionals, role-playing on farmers' difficulties or problems and synthesis-notebook of what was learnt. With the families, the 3 seminar sessions were carried out (fathers, mothers and career development of their children), and the two work modules denominated "we join together to make reforms" and "my child, almost a grown-up". The most important thing in this moment concerning the students was ascertaining their implication in learning about the agricultural sector, how they began to take a stance regarding the problem in the islands and with it learning to make small decisions; with respect to the staff, it was a first contact with the organization of globalized teaching through Vocational Guidance; with respect to the internal-external support system, it implied learning to contrast intersubjective observations and provide the resources necessary during the action. With the families, we were able to bring them closer to the school context and obtain an exchange of ideas on Vocational Guidance. In general, our Project was becoming embedded within the school life.

The *final reflection* allowed us to evaluate the results and the personal views through the different data recorded. With it, we were able to generate a final reflection to redirect our initial goals and theories, give value to the small changes we were able to make, taking into account the objective and subjective resistance to change and, lastly, to reflect it all in the report.

b) Evaluation of the resources and of the disposition to continue

The disposition to continue was very clear, justified by its contribution to the experience in relation to: the teaching dynamics, the training and the improvement of the learning-teaching process. The lack of resources and time impelled the teaching staff to request recognition and support from the government.

c) Evaluation of the proposals for improvement:

Before giving way to the next cycle we pondered about what should be modified regarding our subject of concern. If we had started to get the students to understand how their learning at school could have a greater sense of reality, this success could be increased by going beyond the traditional disciplinary concept and making the process more emancipatory. For this reason, the definition of the problem was changed to: Is it possible and desirable to integrate career education from an interdisciplinary and emancipatory perspective? We were aware that we were entering a very ambitious new cycle however, with support from the Regional Ministry of Education, we decided to take the next step.

II. Second cycle of the Action Research

In this new cycle we took, as a starting point, the last reflections and new categories object of the action research. The new dimensions can be summarized in the following idea: on an intentional and curricular level it was necessary to construct the objective, the curriculum project and the practice, integrators of the interdisciplinary career education; furthermore it was necessary to reconstruct the impact it would have on a personal and institutional level.

a) Initial reflection: Intentional Dimension

In this phase, we analyzed and gave shape to the first category within the area of improvement: our common objective; this served as the backbone for the intentions regarding the students and the teaching

staff (see figure 1). The intention on which the team agreed upon the most was in “motivating the students through their school learning by becoming involved in the current professional world”. In fact, the rest of the intentions were derived from this one; it was expected of the students to construct their own learning in a progressive and investigatory manner, and for this to be done by making autonomous and collaborative decisions. The intentions were shaped within a process of critical reflection, by contrasting questions, evaluations and fragments of readings, on the role of the school within the social framework. It was here how we unveiled the type of career education and work-based learning that we wanted to develop: we are referring to a more emancipatory, global, critical and less regurgitative model of education (Álvarez, & Bisquerra, 2012; Gysbers, & Henderson, 2006; Hyslop-Margison & Armstrong, 2006; McMahon, Arthur, & Collins, 2008)

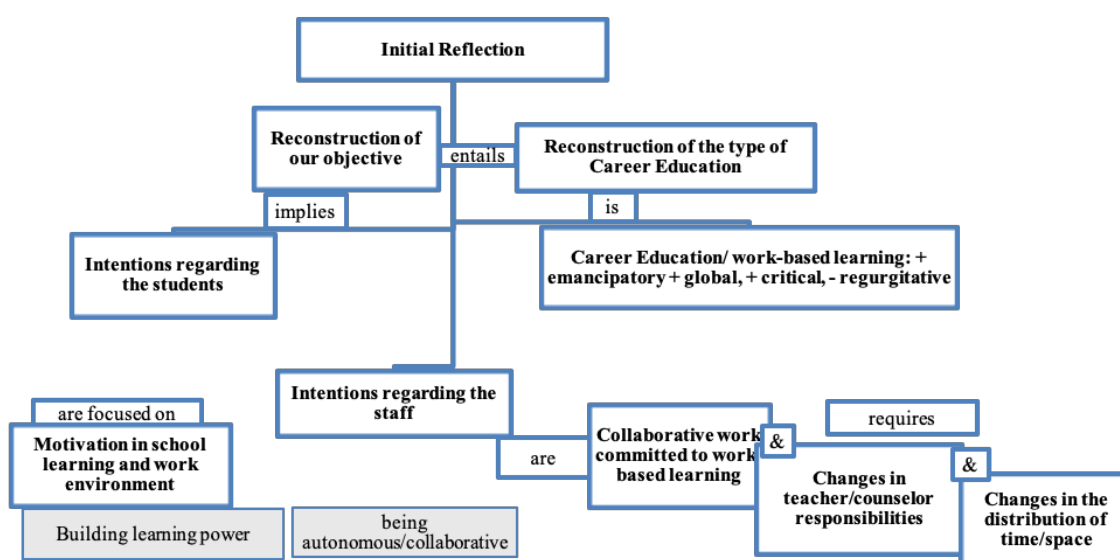


Figure1: Initial reflection

In regards to the intention of getting teachers to work collaboratively sharing the responsibility of a career education and guidance, it progressively came together, first in a more implicit way and slowly explicitly specifying roles and responsibilities in a more realistic manner. The intention of changing the teacher and counselor role in the learning-teaching process was weaved through the revision of analyses and readings on the meaning of “promoting autonomous and responsible decision-making in students”, with an aim for teachers to guide, without imposing, and for the counselor to facilitate. The other intention to change work-spaces and timetables was addressed unavoidably when attempting to search for places and times for research, making timetables and classrooms more flexible and requesting economic support from the government. In short, a true interest was shown in introducing the *interdisciplinary and emancipatory career education* within the school life as a way for students and teachers to find more sense and meaning in the role of the school; this appeared to be, ultimately, a shared objective.

b) Planning moment: Curricular Dimension

Without losing sight of the reflection and becoming gradually more grounded in our intentions, contrasting the different theories on career education, the team set out to plan the action. In this stage, the reflection was oriented more and more towards the action. A curriculum project was being constructed as a general plan for the research. Hence the intentions were specified in the courses of action such as: building a common curriculum framework for the last year of Primary School (6th grade) and the first two years of Secondary School (7th and 8th grade), through conceptual maps; preparing a methodology for the progressive construction of learning; awarding the teacher and counselor a new role as a resource for

student emancipation; collaboratively designing program units on subjects susceptible of including academic and work-based contents; working in a coordinated fashion on the implementation of the programs to make the necessary changes and observations; opening the school to professionals to guide training activities to bring school contents closer to the real world.

The periods of the AR were planned step by step, as it was necessary to focus on the construction moment of a common culture. We started with an idea of curriculum reorganization: organizing the contents around the subject "Planet Earth" in three big questions or fields for the three trimesters: How is Planet Earth? Who forms part of it? and how do we organize ourselves in it? We began organizing the first question, of the first trimester, based on the curriculum contents selected by the staff of each subject relevant to the issue at hand; secondly the career contents were reviewed introducing them in what we assigned "*General conceptual map of infused contents for a first trimester*". The construction lasted almost two months given that it was necessary to debate different issues and come to intersubjective agreements (priority of some subjects over others, types of contents, time limited to carrying out the map in High School, among others).

The reflection given in the last discussion group (DG) on the roles, responsibilities and periods of the AR, led us straight into the action. The design of the programming unit (PU) and the elaboration process of the teaching material were thus fulfilled. The unit was finally shaped as a project for the students titled "construction of a home in the Canary Islands"; a subject which involved an extensive branch of professionals such as building engineers, architects, construction workers, etc. The contents were taken from the integrated conceptual map; the activities responded to a learning sequence according to their contribution to presenting, understanding, applying or evaluating the contents. Classrooms, work spaces and schedules were organized at the same time. The notebook, which was differentiated by two different common threads, held a common structure: presentation and negotiation with the students on how to learn, research and evaluate; activities related to knowledge regarding the Canary Islands from the perspective of a board of professionals in charge of building the intended home; interviews to carry out in the visits to the building engineering school; final report on what was researched. The material includes an annex envelope of documents for consultation and optional complementary activities that each group had to decide whether to carry out or not.

This teaching material was under constant revision generating 4 rough drafts in a period of 3 months of teamwork, discussion and negotiation. Finally, it was evaluated using the open questionnaire (FEQ). Following a long journey of collaborative decision, the good rating of the resulting product was easy to understand; what was interesting was that the inconveniences evaluated in the notebook were not linked to its quality, but rather to the structural conditions of the school and the imbedded tradition in the beliefs of the staff who so many obstacles and resistances can generate when faced with this type of innovation (Guarro 2005, Hargreaves & Fullan, 2014; Hargreaves & Shirley, 2012).

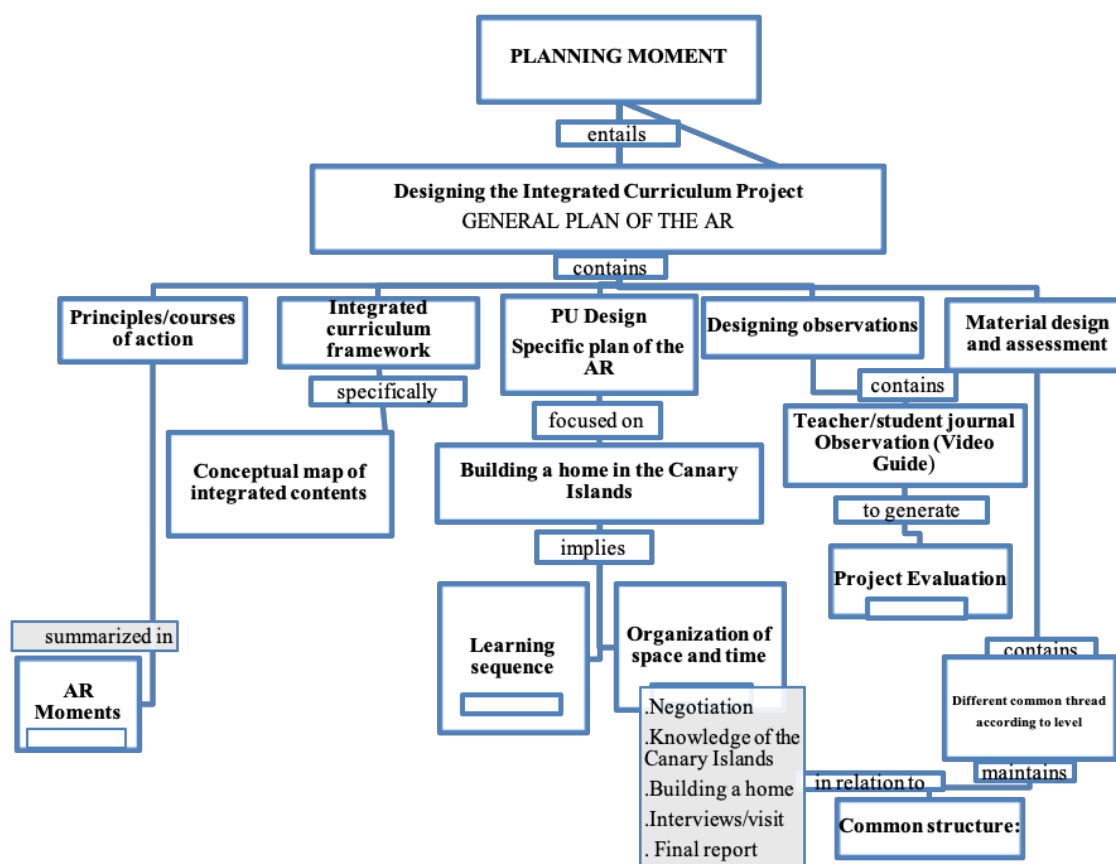


Figure2: Project planning

c) Action-observation: Curriculum dimension

The evaluation was designed with the idea of gathering information in the journals (staff and students) on elements such as the description and assessment of what took place in each session in order to better understand the action in practice.

The *action* began by introducing our intentions to the students. The first activity involved the students making a decision on how to learn and evaluate the program unit. Once debated and the students had accepted their commitment to become involved in the fulfillment of the "Architectonic research project", data was then gathered from the practice itself, thereby contributing to its improvement and readjustment (see Figure 3).

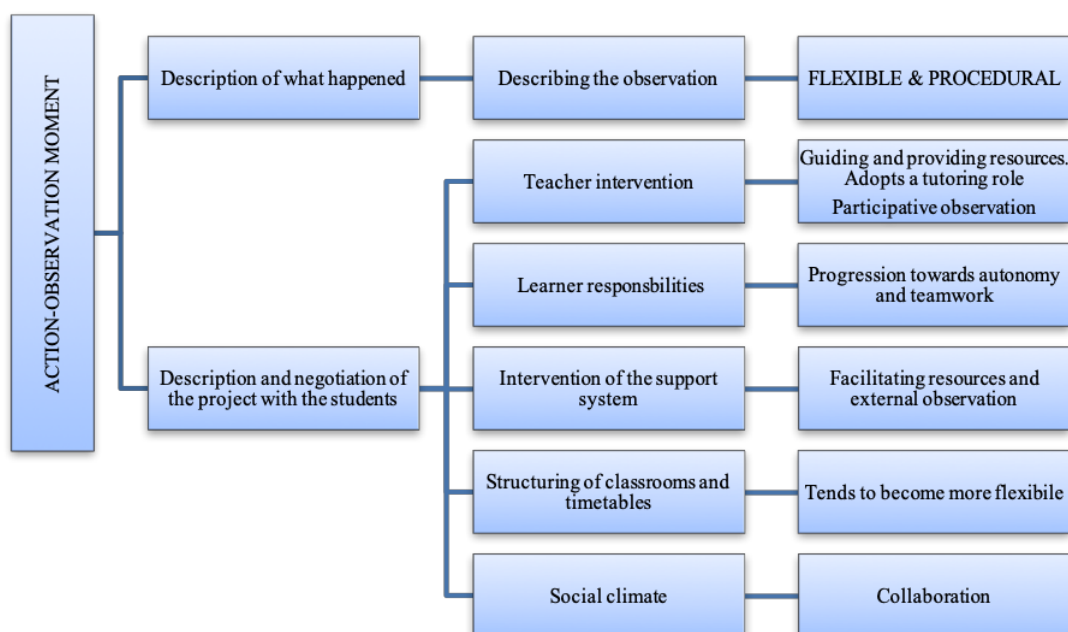


Figure3: Action-ObservationMoment

Through observation of the different agents we were able to see how the Project was being implemented. The *teaching action* was defined by taking on the role of guide, tutoring and giving steps to facilitate the innovative processes, particularly in the 6th grade. In relation to *student performance* it was observed how they began to progressively integrate strategies of autonomous decision-making in their tasks, exhibiting an elevated degree of implication and interest for the Project. About the professional who collaborated in the project it was important to note how he was attentive and listened to the demands of the students supporting the teaching dynamic of leading the students to the autonomous inquiry. The counselor also collaborated in problem-solving, at times interweaving this support with the role of outside observer. In relation to the adaptation of organizational aspects, it was possible to assign a fixed classroom for 1st and 2nd grades Secondary School (7th and 8th grades) but the same was not possible in 6th grade Primary School. The distribution of the groups inside the classroom remained fixed; both the staff and the outside professionals moved throughout the spaces in the classroom. There were exceptional modifications in the regular timetables so that the staff could rotate in the participation of the different levels. With respect to the *social climate*, there was the expected tension that any innovation usually brings forth, yet from the beginning there were clear signs of cordiality and a collaborative environment.

Finally, in relation to *the observation* highlight that it was fulfilled in a flexible manner, in such a way that the staff and students observed and recorded the process as they deemed necessary; in spite of not having this habit the teacher and student journals were successfully completed. The observations were periodically contrasted with the external advisor who kept a more external and peripheral glance.

d) Reflection moment, Results and Personal Dimension

This moment is ingrained in the action, where the personal evaluations are gathered and analyzed in order to progress and solve problems. After the action, the reflection becomes more present as it becomes operative on the level of the intersubjective discourse, bringing together the points of view of the staff, students, counselors and external advisors.

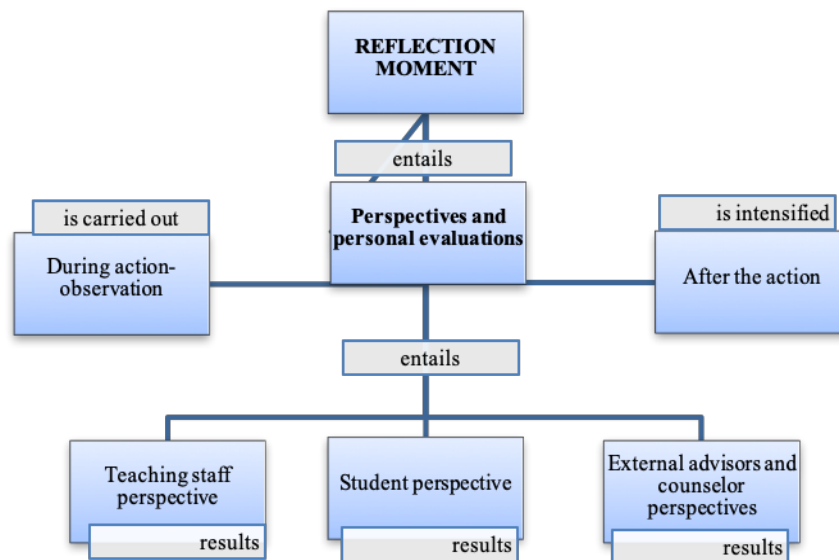


Figure 4: Reflection moment

By triangulating the data of the staff, students and support system we obtained the results gathered in the tables 1 to 3:

Table 1: Participant actions

Participant Actions	Teaching Staff	Students	Internal-external support system
Teaching Actions	We guided the decision-making process; we reflected on our actions and our need to change attitudes	We have received the biggest support from the classroom teachers, especially in understanding activities and integrating the career education/work-based learning	It is positive how, in spite of the difficulties, they adopted the role of counselors as guides in the decision process.
Learners' Actions	They acknowledge their big efforts: having a hard time changing habits they were able to become more autonomous and take more decisions.	They were surprised by the way in which they themselves were capable of working and researching.	Acknowledgment for their efforts to understand the innovation.
Action of external agents	They value positively that they facilitated the action observation thus providing a different teaching perspective. They value positively that the professional worker facilitates and impregnate what is learnt with professional realism	They highlight the help of the professional worker in the Building Engineering School.	It was difficult to observe and keep some distance or a peripheral vision. The professional worker acted as both teacher and counselor.
Social climate	Initial tension, joint collaboration, tired from the effort	Very good relationship with colleagues.	Good collaborative climate with no important tensions.

Table 2: Planning-Action in practice

ACTION-PLAN IN PRACTICE	Staff	Students	Support system
Interdisciplinarity Integration of Career Educatuon	They regard curriculum globalization as essential as it was captured by the students and greatly motivated them	They valued it as quite or very satisfactory. They highlight having been able to reflect on their likes, interests and professional roles They want to know how to face their academic and professional future	It is very positive that the students perceived the integrated curriculum framework; that they resolved a real problem infusing school subjects with work by adopting professional roles, breaking disciplinary barriers.
yTeaching model	They believe in this type of methodology but manifest that they need non-teaching time for it.	The most valued as very positive by most has been "the method of learning".	There was a difficult yet positive progression in the new way of working.
Structuring space/time	Feeling of "structural injustice", dealt with collaboratively. More flexible timetables and work calendars are needed.	Very rushed	It is positive that the structural and organizational problems gave rise to critical conscience and increased collaboration.
Teaching material: The student notebook	Useful to follow up on the course of research. Somewhat complex activities and slightly complicated expressions.	Positive for following up with the research process to understand the relationship with the career education/ work-based learning and for team relationship. Somewhat difficult activities (6th Grade)	It is positive that the innovation problems led to a flexible use of the material.

Table 3: Student Learning

STUDENT LEARNING	Staff	Students	Support system
Work-based contents	The students found a “reason-for-being” of the subjects. The students readily adopted professional roles and tasks. They updated their knowledge on the professions studied	They believe to have learnt quite a lot or very much the way in which school work is helpful for getting to know elements of work, careers and studies. Almost all of them confirm having learnt in decision-making. Most of them believe to have learnt about likes and interests.	It is essential for them to understand the utility of the subjects, valuing them for solving real problems and fulfilling professional tasks. Learning the decision-making process did not go beyond the level of “comprehension” this being but the start of a learning process.
Curriculum contents	They learnt about the use of blueprints and a lot about the Canary Island environment.	The best-rated subject was “Math”	
Global learning	“They appeared to be surer of themselves for having contributed with their research” “They progressively learnt to make decisions regarding their own learning”	The students believe to have learnt: how to carry out a research process; teamwork; to be responsible for their own learning; to work collaboratively and independently (8th Grade) and they regard this as positive.	The main thing was the progress in carrying out the research process; searching for information; learning to make team decisions; constructing a conceptual map.
Impact of the learning process for the students	They regard it as very positive that the students showed motivation for learning globally school contents impregnated with a workplace reality.		It was important that they felt motivated by the determinants that influence the working world; they reconsidered what it meant to go to school and learn: this gave rise to that global curiosity, seed of a critical and realistic vision of the current professional world.

e) Final reflection: Institutional Dimension

The last sessions of team meetings gave form to the final consolidation of the reflection moment. The intersubjective evaluation, shared in a large discussion group, took on an institutional organizational tone, encompassing the rest of the dimension studied as shown in the following figure:

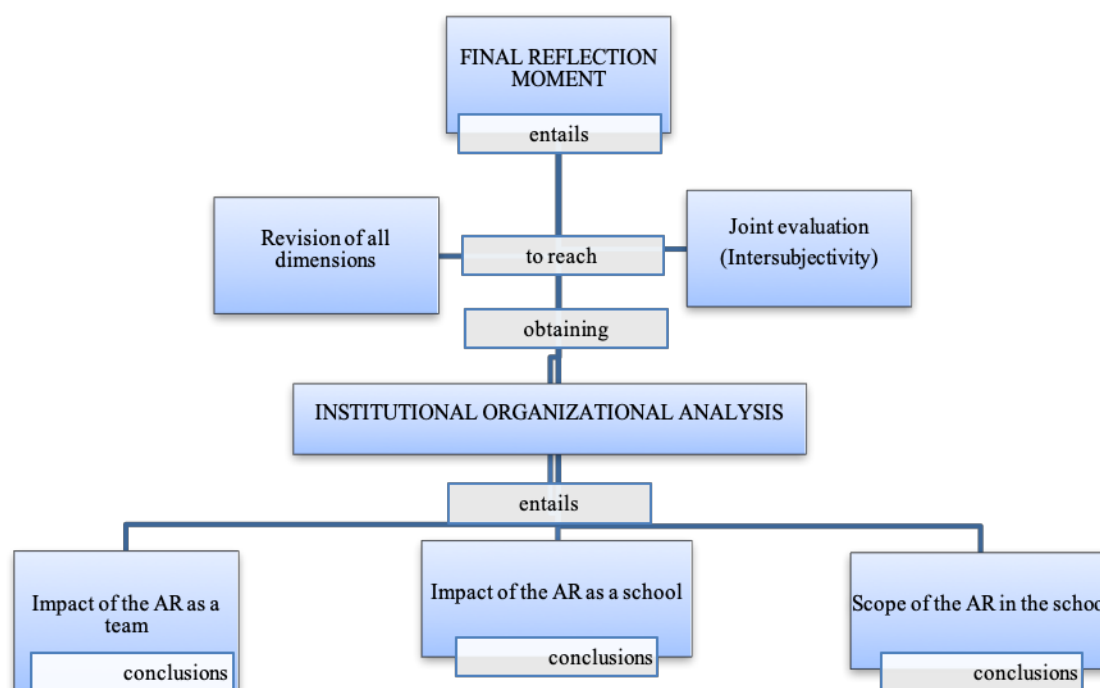


Figure 5: Final reflection

Conclusions

At the end of the process, of this dialectic path where what was possible was contrasted with what was desirable in a specific learning reality, regarding the area of improvement researched, it was possible to close the process with the ascertainment of some conclusions regarding the impact of our research in the collaborative team, in the school and in the school-working environment relationship.

Table 4: Conclusions in relation to teamwork

Regarding teamwork	What AR contributed
On the collaborative and organizational work of the AR	The climate was one of collaboration, rising above personal differences and little systematization in defining roles. (Bonals, 1996; Snell, & Janney, 2000).
On the improvement of Career education: towards a Critical Work-Based Learning	It was possible, to a great extent, thanks to the integration and emancipatory perspective adopted (Wilson, 1998). As suggestions for improvement these were to continue to change attitudes with respect to school learning-teaching; critical and self-critical awareness was raised on what is and what it can become through our proposal (Cohen, Freeman, & Thompson, 1998)

Table 5: Conclusions on the contribution of AR to the school framework

Regarding the school framework; the AR contributed
When we talk about the improvement of the career education within the institutional framework of the school, the possibility of having continuity becomes complicated: "The project grew in such a way that it clashed with the structure of the center. Critical awareness was raised as to how the organizational culture of the centers slows down or frustrates the teaching and learning ideals related to improvements in education" (González, Escudero, Nieto, y Portela, 2011; Escudero, González & Martínez, 2009; González, 2003, 2003b; Guarro, 2005)
Improvement is needed in terms of space, timetables, school calendars and in integrating career education and guidance from the first grades, not just in the critical moments of transition from one stage to another. This would entail large amounts of joint efforts and time to unify criteria in the school center. (González & Santana, 1995, 1996 y 1998)

Table 6: Conclusions on the contribution of the AR to the school-work relationship

Regarding the school-work relationship	What the AR contributed
Has it been possible to bring the work reality to the school?	<p>With respect to the government it appears to be that it does not fully facilitate the approximation to reality: there are too many external determinants for teachers that put a brake on innovation ideals and render the intentions for improvement difficult.</p> <p>Opening up the school to the professional world has been possible and continued to be desirable; the external agents and professionals had enabled the approach, favoring not only the representation but also, and above all, the <i>in situ</i> real life experience of the work reality and with it a more real, conscious and critical vision of education (González & Santana, 1996; Feldfebler & Verger, 2006).</p>
What is left to improve?	<p>Proposals for continuity were defined in the following terms: To create a space within the center of the work-based research-education; to extend and elaborate contacts with the INEM (National Employment Institute), training and vocational schools and employment agencies, etc.; request improvements in resources and organization to plan integrated programs and elaborate teaching materials (Wrigley, 2007; Botía y Calvo, 2009).</p>

Finally, in spite of institutional and organizational difficulties, we were able to establish that the improvement of a *Critical Career Education and Guidance* was possible and desirable in the way it awarded students the essential competences to learn about the reality of the current professional world in which we are immersed and by addressing it from the first grades in school (González, 1997). The school failure rates in our country must continue to be under the close scrutiny of each and every one of the educational agents (European Commission, 2009b), hence, through collaborative research, our purpose is to diminish the rates of exclusion, inequality and failure. Today, in times where value is given to inclusion and diversity, this interest continues to be applicable and it becomes even more pressing to take measures such as the ones described in this study, directing our efforts towards educational practices that favor autonomy (Pérez-Jorge, Barragán, & Molina-Fernández, 2017), cooperative learning in decision-making with an awareness placed in the professional world (Carlsmith & Cooper, 2002; Cohen, Freeman & Thompson, 1998) and with it to endow education with a halo of freedom; in Botía and Calvo's words (2009, p.75):

The active exercise of citizenship, encoded in (...) the possibility of being autonomous in the dialogic relationship, which allows for reciprocal recognition, calls for a development threshold of basic skills (...). This is what ceases to be ensured in school failure. Beyond "hidden" statistical numbers, etc. what is hidden (denying its acknowledgment) is that a group of people find their condition as citizenships degraded. Without these minimal thresholds of basic skills, people cannot attain a situation of independence, their freedom thus becoming seriously restricted.

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